AMENDMENT

Amendments to the Claims:

Please amend the claims as follows, without prejudice:

In the Claims:

1. (Currently Amended) A method of generating a protein array from a library ~~a plurality~~ of two or more non-identical target DNA sequences, the method comprising:

(a) inserting a marker DNA sequence in frame immediately following a start codon of each of the ~~plurality of~~ target DNA sequences or immediately preceding a stop codon of each of ~~a~~ the ~~plurality of~~ target DNA sequences or both, to form ~~a plurality of~~ a library of modified DNA sequences which encode ~~a plurality~~ a library of modified amino acid sequences each comprising a marker moiety;

(b) expressing the ~~plurality~~ library of modified target amino acid sequences from the ~~plurality~~ library of modified DNA sequences;

(c) purifying and immobilizing each of the ~~plurality of~~ modified target amino acid sequences to a solid support in a single step, wherein the marker moiety~~y~~ies of the ~~plurality of~~ target modified amino acid sequences ~~is~~ are directly attached to the single solid support in a spatially defined format, thereby generating a protein array, and

(d) washing said solid support to remove unbound proteins.

2. (Previously Presented) The method as claimed in claim 1 wherein the marker moiety is a peptide sequence selected from the group consisting of:

(a) a histidine tag;

(b) a complete protein or protein domain;

(c) a maltose binding protein domain;

(d) an antibody epitope;

(e) biotin or a biotin mimic;

(f) a glutathione-S-transferase (GST) domain; and

(g) a peptide sequence which effects attachment to the solid support.

3. (Previously Presented) The method as claimed in claim 1 wherein the marker moiety allows for purification of the individual proteins in the array.

4. (Previously Presented) The method of claim 1 wherein the marker DNA sequence is inserted such that the start or stop codon for each of the proteins is replaced.

5-7. (Canceled).

8. (Withdrawn) A method of screening one or more compounds for biological activity which comprises:

(a) bringing said one or more compounds into contact with the array made according to any one of claims 1 to 4; and

(b) measuring binding of the one or more compounds to the proteins in the array.

9. (Withdrawn) A method of screening one or more proteins for specific protein-protein interactions which comprises the step of bringing said one or more proteins into contact with an array made according to any one of claims 1 to 4, and measuring binding of the one or more specific proteins with the proteins of the array.

10. (Withdrawn) A method of screening one or more proteins for specific interactions with one or more nucleic acid probes which comprises the step of bringing said one or more nucleic acid probes into contact with an array made according to any one of claims 1 to 4, and measuring binding of the probes to the proteins in the array.

11. (Withdrawn) A method for the rapid screening of a test compound, test protein or test nucleic acid, the method comprising:

(a) contacting the test compound, test protein or test nucleic acid with a spatially defined array produced according to any one of claims 1-4 comprising a plurality of array bound

proteins, with each array bound protein being at a different position on a solid support, wherein the plurality of array bound proteins comprises a plurality of different proteins expressed in a single species; and

(b) detecting any interaction between the array bound proteins and the test compound, test protein or test nucleic acid.

12. (Withdrawn) A method of screening for molecules which recognize each protein in the array, the method comprising:

(a) contacting the molecules with a spatially defined array comprising a plurality of array bound proteins produced according to any one of claims 1-4, with each array bound protein being at a different position on a solid support, wherein the plurality of array bound proteins comprises a plurality of different proteins expressed in a single species; and

(b) detecting any interaction between the array bound proteins and the molecules.

13. (Previously Presented) A method of generating an antibody array which comprises

(a) bringing a protein array, made according to any one of claims 1 to 4, into contact with an antibody library, such that one or more proteins in the protein array bind to at least one antibody in the antibody library;

(b) removing any unbound antibodies; and

(c) immobilisation of those antibodies bound to proteins in the protein array.

14. (Withdrawn) A method for the screening of protein function or abundance which comprises the step of bringing an antibody array as defined in claim 13 into contact with a mixture of one or more proteins.

15. (Canceled).

16. (Cancelled)

17. (Cancelled)

18. (Previously Presented) The method of any one of claims 1 to 4 wherein the protein array comprises serine proteases, kinases or p450 enzymes.

19. (Currently Amended) The method of any one of claims 1 to 4 wherein said ~~plurality~~ library of modified amino acid sequences are modified human amino acid sequences.

20. (Previously Presented) The method of claim 2 wherein the marker moiety is selected from the group consisting of FLAG and Strep.

21. (Previously Presented) The method of claim 1 or 2 wherein the marker moiety is post-translationally modified.

22. (Previously Presented) The method of claim 21 wherein the post-translational modification comprises the addition of a biotin or a lipid molecule.

23. (Previously Presented) The method of claim 1 wherein said modified amino acid sequences are folded into the correct conformation.

24. (Currently Amended) The method of claim 1 wherein said inserting step inserts a marker DNA sequence in frame immediately following a start codon of each ~~plurality~~ target DNA sequence and immediately preceding a stop codon of each ~~plurality~~target DNA sequence, to form a ~~plurality~~ library of modified DNA sequences which encode a ~~plurality~~ library of modified amino acid sequences each comprising two marker moieties.

25. (Withdrawn) A method of generating a proteomic array of proteins of unknown amino acid sequences comprising the steps of:

(a) providing a cDNA library as a plurality of target DNA sequences; and

(b) generating a protein array using the method of any of claims 1 to 4 to produce a proteomic array of proteins of unknown amino acid sequence.

26. (Currently Amended) A method of screening for antibodies which recognize each protein in the array, the method comprising:

(a) contacting the antibodies with a spatially defined array comprising a ~~plurality~~ library of array bound proteins produced according to any one of claims 1-4, with each array bound protein being at a different position on a solid support, wherein the ~~plurality~~library of array bound proteins comprises a ~~plurality~~ library of different proteins expressed in a single species; and

(b) detecting any interaction between the array bound proteins and the antibodies.

27. (Previously Presented) The method of claim 1, wherein the marker moiety provides a high-affinity attachment to the solid support.